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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,562	04/26/2000	Masahiro Ohishi	463P065	1512

7590

12/05/2001

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EXAMINER

THOMAS, COURTNEY D

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/558,562

Applicant(s)

OHISHI ET AL.

Examiner

Courtney Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of the use of legal phraseology (i.e. line 5, "said" system, etc. Correction is required. See MPEP §608.01(b).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 5-7 are rejected under 35 U.S.C. § 102(b) as being anticipated by Key et al. (U.S. Patent 5,241,360).

3. As per claim 1, Key et al. disclose a distance measuring system (abstract), comprising a control arithmetic unit (i.e. control unit; see column 3, lines 25-27; Fig. 1 #30), a light emitting unit (i.e. Fig. 1, #22) for emitting a measuring light beam and a photo-detection unit (i.e. Fig. 1, #56; column 6, lines 48-51) for receiving a reflection light beam (i.e. Fig. 1, #42) from an object

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(i.e. Fig. 1, #38) to be measured, and said system being used for measuring a distance by receiving said reflection light beam from said object to be measured, wherein said control arithmetic unit (i.e. control unit; see column 3, lines 25-27; Fig. 1 #30; also column 2, lines 53-59), compares a signal based on photo-detection amount of the light from said object to be measured as well as a result of distance measurement with a reference data pre-stored in said control arithmetic unit relating to reflection of said object to be measured, and judges said object to be measured based on a result of the comparison (see abstract and respective portions of the specification; i.e. columns 2-3).

4. As per claim 2, Key et al. disclose a distance measuring system according to claim 1, further comprising a density filter for adjusting said photo-detection amount of said light beam from said object to be measured, wherein said signal based on said photo-detection amount represents a density position of said density filter, and said reference data relating to reflection of said object to be measured is obtained by associating a measured distance with said density position of said density filter (see column 7, lines 27-60).

5. As per claim 3, Key et al. disclose a distance measuring system according to claim 2, wherein said density filter is a disk where density is continuously changed in a circumferential direction, said density filter is rotated by a stepping motor, and said density position corresponds to a number of rotating steps of said stepping motor (see column 7, lines 27-60; also, i.e. Fig. 1#s 58, 60, 62).

6. As per claim 5, Key et al. disclose a distance measuring system according to claim 1, further comprising a display unit, wherein a result of judgment on said object to be measured is displayed on said display unit (i.e. Fig. 3, #130).

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7. As per claim 6, Key et al. disclose a distance measuring system according to claim 5, wherein there are provided at least a prism measurement mode and a non-prism measurement mode (i.e. column 5, lines 36-48; Fig. 3), and when said prism mode is selected, said distance is displayed on said display unit only when said object to be measured is judged as a corner cube, and the fact that said object to be measured is not a corner cube is displayed on said display unit when said object to be measured is not judged as a corner cube (see Fig. 2, and respective portions of specification).

8. As per claim 7, Key et al. disclose a distance measuring system according to claim 5, wherein photo-detection sensitivity can be automatically changed over according to said photo-detection amount of said light beam from said object to be measured, said object to be measured is judged according to said photo-detection amount, and a result of judgment on said object to be measured is displayed on said display unit (i.e. column 8, lines 33-39 and respective portions of the specification).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Key et al. (U.S. Patent 5,241,360) in view of Schreuder (U.S. Patent 4,646,092).

11. As per claim 4, Key et al. disclose a distance measuring apparatus meeting all the limitations of claim 1, except the reference data relating to the reflection of said object to be

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measured contains change of said photo-detection amount due to weather conditions as a tolerance value.

12. Schreuder teaches that distance measuring systems often lack accuracy measurements due to the receipt of reflected light signals containing transmission noise and/or multi-path reflections. Schreuder further teaches that inaccuracies originating from multi-path reflections (i.e. propagation and/ or weather conditions) are in essence, unpredictable and can only be assessed on a statistical basis from experience (see column 4, lines 10-40). Schreuder implicitly teaches, however, that the use of a database of collected behavioral characteristics could refine the accuracy of signal information in lieu of ideal propagation conditions.

13. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify Key et al., as per the teachings of Schreuder, to include a reference database containing changes in photo-detection values due to environmental conditions, so that obtained distance measurements are free from inaccuracies originating from changes in the light propagating environment.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (703) 306-0473.

The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305 3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3594 for regular communications and (703) 305-3594 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Courtney Thomas

November 13, 2001


ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800